

In the Claims

Please cancel claims 1-8 without prejudice and substitute therefor the following new claims:

SUB
F1

33. A kit for the synthesis of a polynucleotide, said kit comprising:

- (a) a first DNA polymerase, wherein said first polymerase possesses 3'-5' exonuclease activity, and
- (b) a second DNA polymerase, wherein said second polymerase lacks 3'-5' exonuclease activity.

34. A kit according to Claim 33, wherein said first and second DNA polymerases are thermostable.

35. A method of amplifying a polynucleotide sequence, said method comprising: the steps of mixing a composition, with a synthesis primer, and a synthesis template, said composition comprising

- (a) a first DNA polymerase possessing 3'-5' exonuclease activity, and
- (b) a second DNA polymerase, wherein said polymerase lacks 3'-5' exonuclease activity.

36. A method according to Claim 35 wherein said first and second DNA polymerases are thermostable.

37. A method according to claim 36, wherein said first DNA polymerase is selected from the group consisting of *Pyrococcus furiosus* DNA polymerase, *Thermotoga maritima* DNA polymerase, *Thermococcus litoralis* DNA polymerase, and *Pyrococcus GB-D* DNA polymerase.

SUB
D1

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

SUB
D1
COO't.

B

SUB
D2

38. A method according to Claim 37, wherein said first DNA polymerase is *Pyrococcus furiosus* DNA polymerase.

39. A method according to Claim 36, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-) *Thermococcus litoralis* DNA polymerase, (exo-) *Pyrococcus furiosus* DNA polymerase, and (exo-) *Pyrococcus* GB-D DNA polymerase.

40. A method according to Claim 36, wherein said second DNA polymerase is *Thermus aquaticus* DNA polymerase.

41. A method according to Claim 37, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-) *Thermococcus litoralis* DNA polymerase, (exo-) *Pyrococcus furiosus* DNA polymerase, and (exo-) *Pyrococcus* GB-D DNA polymerase.

42. A method according to Claim 38, wherein said second DNA polymerase is *Thermus aquaticus* DNA polymerase.

43. A kit according to Claim 34, wherein said first DNA polymerase is selected from the group consisting of *Pyrococcus furiosus* DNA polymerase, *Thermotoga maritima* DNA polymerase, *Thermococcus litoralis* DNA polymerase, and *Pyrococcus* GB-D DNA polymerase.

44. A kit according to Claim 43, wherein said first DNA polymerase is *Pyrococcus furiosus* DNA polymerase.

45. A kit according to Claim 34, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-)

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000